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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,629	06/25/2001	Jean-Marc Frances	RN 98131	3024

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EXAMINER

ZIMMER, MARC S

ART UNIT

PAPER NUMBER

1712

10

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/806,629	FRANCES, JEAN-MARC
	Examiner Marc S. Zimmer	Art Unit 1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 22 January 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 20-28 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 20-28 is/are rejected.

7) Claim(s) 21,23 and 27 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

Claim Objections

Applicant has satisfactorily addressed all of the issues delineated under this heading in paper no. 8. Accordingly, the preceding objections are hereby withdrawn.

However, in new claim 21, Applicant makes reference to the " R^{16} anionic entity" in describing component (4) of the presently claimed composition. It is not understood how the aforementioned variable is germane to the recitation of the anionic entity as the structural definitions (1' to 7') that follow are complete in and of themselves. The Examiner submits that mention of R^{16} should be removed as it does not appear to aid in the description of the anionic entity in any way. It is notable that this variable is previously mentioned in claim 20 as a structural subunit of photosensitizer (VI).

The placement of "Z2" in claim 23 elicits confusion as to what it is supposed to indicate. It is recommended that claim 23 be redrafted to read the same as claim 22.

The variable R_0 in the structures outlined in claim 27 should be defined somewhere in the claim. Also, the bonds to the first ethereal oxygen in structure (h) are absent. Applicant is required to make clear the connectivity of all atoms in this structure.

Claim Rejections - 35 USC § 112

The problems related to improper utilization of Markush language in the preliminary amendment have been obviated with the entry of new claims 20 to 28.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 20-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

On page 7 of the response, lines 3 and 4, a variable R⁵ is stated to have the same meaning as in formula III. There is not antecedent basis in the claim for formula III. Indeed, it is believed that Applicant had intended to refer to formula IV.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 22 requires that Z1 comprise at least one of either an epoxy group or a dioxolane group. It is then stipulated that at least one epoxy group be present, which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-22 and 26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Priou et al., U.S. Patent # 5,703,137 for the reasons set forth in paper no. 8.

Claim 24 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Priou et al., U.S. Patent # 5,703,137 because some of the epoxy substituents outlined therein are very clearly taught in column 6, lines 33-47.

This office action will not be made final because the Examiner failed to appreciate before that *Priou* anticipated the limitations of claim 15, the subject matter of which is currently recited in claim 24.

Applicant has amended the base claim by (a) more particularly defining the photosensitizing and photoinitiating species of the instant invention and (b) expressly stating that the composition will have a volumetric shrinkage of less than 1.5% shrinkage (v/v) when it is crosslinked. Despite the more limiting definitions of components (2) and (4), Priou still anticipates these aspects of the invention. As for the last-added limitation, it is the position of the Office that the composition disclosed by Priou will inherently possess this characteristic as the compositions disclosed in the reference and present application are similarly constituted. "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See also *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established."

Section 2112.01 of the MPEP emphasizes that, "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). "Whether the rejection is based on inherency' under 35 U.S.C. 102, on *prima facie* obviousness' under 35 U.S.C. 103, jointly or

alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F. 2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). However, "A prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product." *In re Best*, 562 F.2d at 1255, 195 USPQ at 433.

In addition to Applicant's contention that Priou neither teaches, nor "cares about" low volume shrinkage, the following points are also made:

- (i) Priou discloses a comparatively large quantity of borate-type photoinitiators whereas only a limited number, $7 \times 12 = 84$, of these are claimed (apparently, Applicant is purporting that it would not have been obvious to select one of the 84 claimed initiators from the list of initiators identified in the reference),
- (ii) Priou does not utilize a photosensitizer of the instant invention in their examples, and
- (iii) there is no suggestion that Priou advocates the incorporation of the filler in a quantity amounting to at least 10% by weight of the composition. In this connection, Application seems to indicate that the operability of their invention is unexpected in view of the belief that such a quantity would somehow interfere with the efficacy of the initiator and sensitizer.

As for (i), the Examiner vehemently disagrees that the claimed borate is not at least obvious in view of the reference. In column 4, Priou discloses a total of six preferred borate counter-ions and nine iodonium- and sulfonium cations for a total of 54 preferred embodiments of the initiator. Significantly, there is **full** overlap between the preferred embodiments of the photoinitiator in Priou and those named in claims 20 and 26. That is, of the 84 compounds contemplated in claim 20, 54 of these are those expressly mentioned as favorable by Priou.

Regarding the second point, one of ordinary skill would only be choosing from a very restricted list of seven photosensitizers, two of which are explicitly stated in claim 20. This hardly constitutes an invitation to substantially more experimentation to arrive at the instant invention. Furthermore, the fact that the examples do not mention the utilization of a photosensitizer is immaterial. "Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments." *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989).

The final point made by the Applicant is perhaps the most intriguing in the sense that they are indicating that one having ordinary skill in the art would somehow have been deterred from adding a filler in any significant quantity in the invention disclosed by Priou due to an expected deleterious effect on the overall curability of the composition.

(In essence, Applicant is asserting that it is unexpected that the instant invention would exhibit good curability at “high” loadings of the filler component.) Applicant has offered nothing but conjecture, i.e. the statement that “filler....is *likely* to hamper”, in support of the notion that high quantities of filler will adversely effect the action of the photosensitizer. Applicant should provide empirical or anecdotal evidence proving that one of ordinary skill would have been discouraged from adding 10% by weight or more of the filler to the invention disclosed by Priou.

As an aside, it is acknowledged that Priou does not expressly disclose the amount of filler set forth in the claims. However, Applicant has not established any criticality for this parameter. Furthermore, fillers are most often added in quantities far exceeding 10% by weight of the host matrix in order to achieve their intended purpose.

The rejection over *Weinmann* in view of *Castellanos* is withdrawn for the simple reason that neither reference teaches the particularly disclosed photosensitizers of claim 20.

Allowable Subject Matter

Claims 25 and 28 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. Claim 27 is also allowable pending the resolution of the objections raised above. Priou does not disclose these more specific embodiments of the photosensitizer and epoxy-

functionalized silicone nor is there any indication that the composition may be employed in the production of dental articles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 703-605-1176. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

March 17, 2003



Robert A. Dawson
Examiner
PTO/Office of Technology Transfer
U.S. Patent and Trademark Office